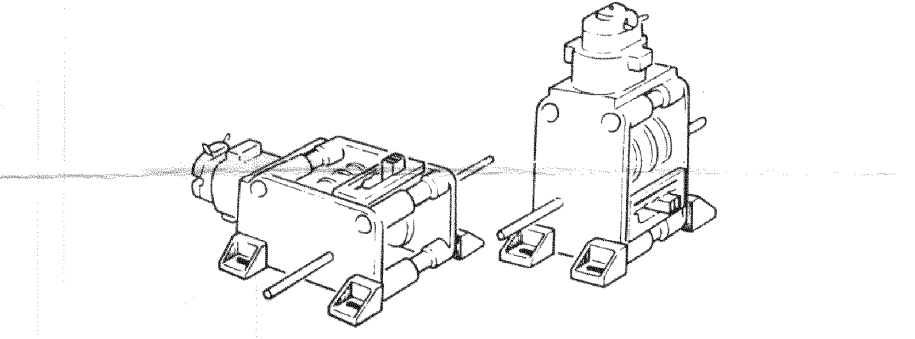
INSTRUCTIONS

"ONE-TOUCH SELECTABLE GEAR BOX"

MODEL NUMBER: OWI-GB25

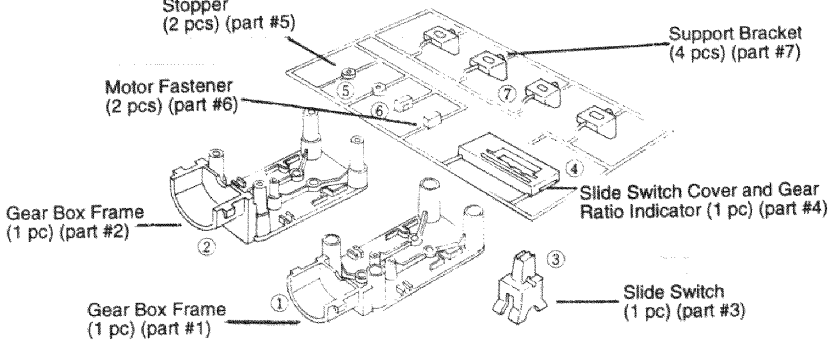
This gear box has three different gear ratios which can be selected with a switch, and has a total of six gear ratio possibilities.

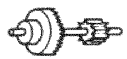


Necessary tools

1. Screwdriver (+)
2. Utility knife or diagonal cutter
3. Cardboard box at least two inches deep
4. Small hammer

Read the instructions carefully and completely before assembly. Follow the step-by-step instructions during assembly.

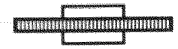




Crown gear and pinion gear on shaft
(1 pc) (part #8)

3mm x 100mm Rod with Threaded
Ends (1 pc) (part #9)

Flat Spur Gear (26) with Pinion (10)
(6 pcs) (part #10)



Flat Slide Gear (34 cogs)
(1 pc) (part #11)

Metal Shaft
2mm x 35mm
(3 pcs) (part #12)

Metal Spacer
(2 pcs) (part #13)

M2.6 x 25mm Screw
(4 pcs) (part #14)

M2.6 Nut
(4 pcs) (part #15)

Pinion Gear (10 cog) for
Motor (1 pc) (part #16)

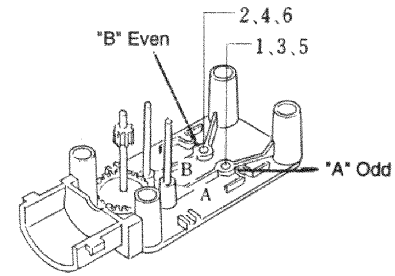
Motor
(1 pc) (part #17)

Gear Ratio

This gear box has six different gear ratio possibilities. By inserting the 3mm x 100mm rod with threaded ends (part #9) into either the opening "A" (odd side) or opening "B" (even side), different gear ratio possibilities may be obtained. There are three different gear ratios on each side.

Opening "A" on the gear box frame #1 is the right side (viewed from the motor front section) or the odd side (see diagram and chart for gear ratios).

Opening "B" on the gear box frame #1 is the left side (viewed from the motor front section) or the even side (see diagram and chart for gear ratios).



Gear Ratios

"A" Odd		"B" Even	
1	6.8 : 1	2	17.68 : 1
3	45.97 : 1	4	119.52 : 1
5	310.74 : 1	6	807.93 : 1

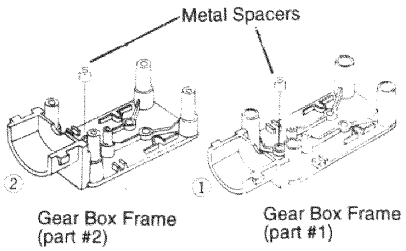
Brief Information

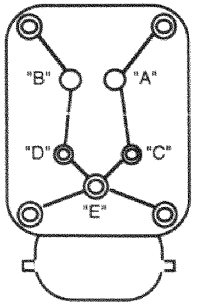
1. Gear ratios 1 - 6 change speed as well as torque.
2. 1, 2, and 3 are designed for more speed and less power. The smaller the number, the faster it will turn.
3. 4, 5, and 6 are designed for more power and less speed. The larger the number, the more torque it will have.
4. The gear ratios can be changed while the gears are in motion with the slide switch.
5. To change from odd or even ratios, the gear box must be separated and the 3mm x 100mm rod (part #9) must be inserted into the odd or even side opening "A" or "B".

ASSEMBLY INSTRUCTIONS

1. Disconnect the two gear box frames.

2. Insert metal spacers (part #13) into the opening "E" of each frame, and lubricate inside of the spacers.

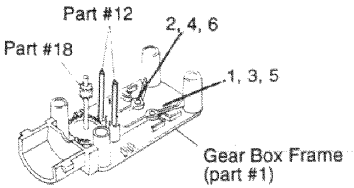




3. Using gear box frame (part #1)

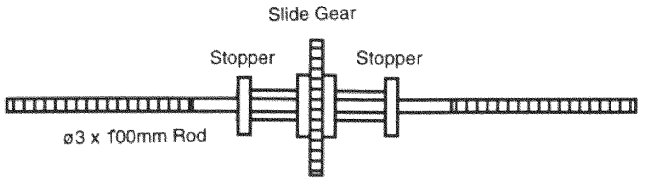
   a. Insert the shaft with crown gear and pinion gear (part #8) into opening "E"

   b. Insert the two metal shafts (part #12) into opening "C" and "D"



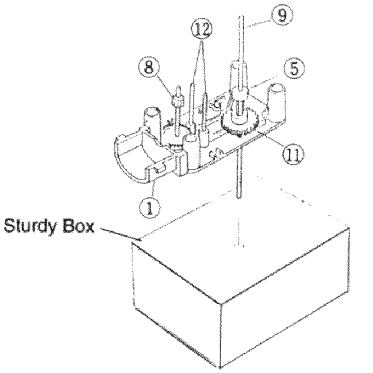
4. Insert the flat slide gear (part #11) onto the rod 3mm x 100mm (part #9). Position the slide gear in the center of the rod. Next, insert the stoppers (part #5) onto the rod, one on each end.

   Note: Check the stopper (part #5) carefully. One side of the stopper is grooved to fit partially onto the grooved part of the rod. Do not force the stopper completely onto the grooved part of the rod.



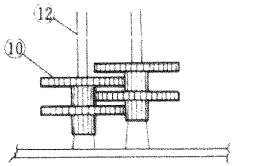
5. Place the gear box frame onto a sturdy box. Make a small hole in the box for the rod to fit through

6. Insert the completed rod into either opening "A" (odd side) or "B" (even side), depending on the gear ratio you require.

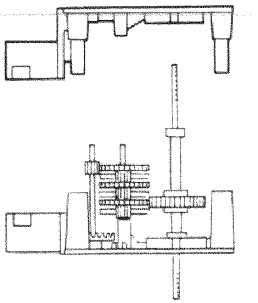


7. Insert the six flat spur gear with pinion (part #10) onto the two shafts (part #12) with the pinion gear side down. Stagger the gears onto the shafts starting with the left side, alternating from one shaft to the other. Note: there should be three gears on each shaft.

Suggestion: Lubricate gears

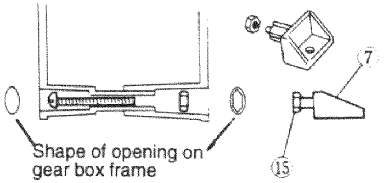


8. Attach the other half of gear box frame (part #2). Align the shafts with the proper opening on the gear box frame.



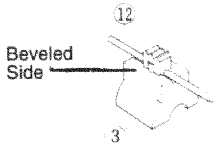
9. Insert the four screws (part #14) into the gear box frame #2

10. Detach one of the support brackets (part #7) and place a M2.6 nut (part #15) on the end of the support bracket and guide the nut into place of gear box frame #1. Attach all four nuts to the screws, but do not tighten.

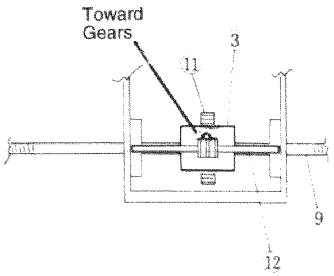


11. Place the gear box with the slide gear toward the bottom.

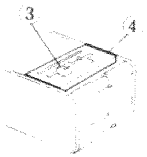
12. Insert the remaining metal shaft 2mm x 35mm (part #12) into the slide switch (part #3).



13. Place the slide switch (part #3) on top of the flat slide gear (part #11) with the shaft (part #12) placed into the slots on each gear box frame. The slide switch should be straddling the slide gear. The smooth side of the slide gear should be facing away from the six gears, the beveled side should be facing the six gears.

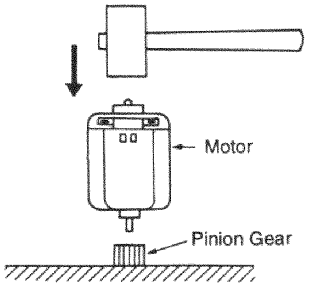


14. Slightly separate the gear box frame and insert the slide switch cover (part #4) with the numbers facing away from the gears.



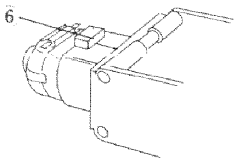
15. After the slide switch cover is properly seated, tighten all four screws on the gear box frame.

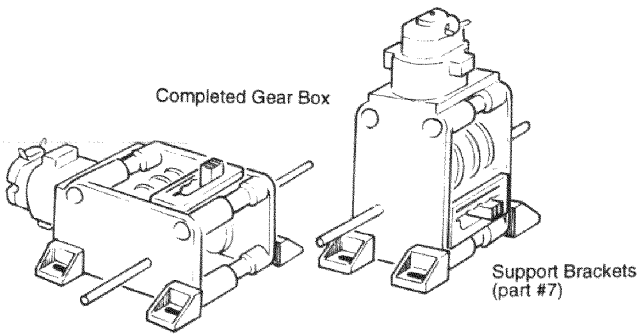
16. Attach the pinion gear (part #16) onto the motor shaft. Make certain the motor shaft is inserted completely into the pinion gear so that the end of the shaft is flush with the pinion gear.



17. Insert the motor into the gear box and correctly engage the pinion gear on the motor to the crown gear.

18. Attach the motor fasteners (part #6) to the gear box to secure the motor.





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